MPA-017: E-Governance
Assignment (TMA)

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Maximum Marks: 50

This assignment consists of Sections I and II. There are five questions in each Section. You have to answer a total of five questions in about 400 words each. It is necessary to attempt at least two questions from each Section. Each question carries 10 marks.

SECTION-I

1) Define e-governance and the legal and policy framework of ICT and e-governance in India. 10

2) Explain the various components of ICT, namely computer hardware, computer software, Local Area Network, Wide Area Network, and satellite. 10

3) Examine the role of ICT in administration. 10

4) 'Administrative culture has to be e-governance compatible.' Discuss. 10

5) Elucidate the role played by ICT in the modernization of agricultural sector and in women empowerment. 10

SECTION-II

6) Describe the need and importance of ICT intervention in local governance. Also, mention in detail the application areas of ICT in PRIs. 10

7) Write a note on the concept and significance of e-learning. Also highlight virtual learning environment. 10

8) Elaborate upon the benefits and limitations of e-commerce. Also, describe electronic payments. 10

9) Write a note on ICT applications in Indian Railways. 10

10) Detail out the various services offered through e-seva project. 10

ASSIGNMENT SOLUTIONS SAMPLE(2021-2022)

MPA-17

Electronic Governance

Disclaimer/Special Note: These are just the sample of the Answers /Solu tions to some of the Questions given in the Assignments. These Sample Answers /Solu tions are prepared by Private Teacher/Tutors/Authors for the help and guidance of the student to get an idea of how he/she can answer the Questions given the Assignments. We do not claim 100% accuracy of these sample answers as these are based on the knowledge and capability of Private Teacher /Tutor. Sample answers may be seen as the Guide/Help for the reference to prepare the answers of the Questions given in the assignment. As these solutions and answers are prepared by the private Teacher/Tutor so the chances of error or mistake cannot be denied. Any Omission or Error is highly regretted though every care has been taken while preparing these Sample Answers/Solutions. Please consult your own Teacher/Tutor before you prepare a Particular Answer and for up-to-date and exact in formation, data and solu tion. Student should must read and refer the official study material provided by the university.

SECTION-I

Q. 1. Define e-governance and the legal and policy framework of ICT and e-governance in India.

Ans. Concept of E-governance: The term e-governance refers to the processes in which Information and Communication Technology (ICT) plays a significant role. The role played by ICT could be wide-ranging: In delivery and standards of governance services, to how people access such services, and the participation of people in the governance. E-governance uses ICT to induce changes in the delivery and standards of governance services and more i mporta ntly, in the way citizens interact and participate in the governance.

In case of good governance , information is acquired and used strategically for public good. And in case of bad governance , the same information is used for private gains and for suppression of the citizens. In either forms of governance, the selective use ofinformation creates hierarchal structures on which power gets unequally distributed. The skew in the distribution of power at each hierarchical level is proportional to the critical information residing at each level.

The views of e-governance are helpful in drawing attention to particular elements of the use of information and communication technologies in the public sector, from the online interface between government and citizens to technology's role in reforming public administration.

We all know that e-governance ofICT in the working of government imply SMART governance: Simp le , M o ral, Accountable, Responsive and Transparent.

"SMART Governance" is about the future of the public services, it's about greater efficiency, community leadership, mobile working and continuous improvement through innovations. SMART governance is about using technology to

facilitate and support better planning and decision- making. It helps in transforming the ways that public services are delivered. It includes e-government, the efficiency agenda and mobile working.

The objectives of the network are to stimulate ideas, encourage and support experience sharing, and to challenge existing ways of wor king. It is a new network that is building on, and expanding the scope of the e-champio ns ' network that was formerly operated by the Improvement and Development Agency (IDeA).

It is a largely virtual network with a slim administrative and operational structure . It will be running experience sharing events, providing regular updates on **SMART** governance iss ues , and encouraging innovation in public service delivery etc.

E-governance and E-government

The development of e-government and e-governance takes place in a very specific environment and contextual pressure which we must understand and learn, in order to steer at best. This overall change can be identified as manifold, although producing a composed impact on our lifestyle , level of wealth and relationships interregionally and internationally.

E-government rests on the pillars of knowledge and recognition ofthis set of knowledge by the decision-makers and people alike . Digitization of this entire set of knowledge within a network which is open to all individuals (an inclusive network by design) opens up possibilities for all to access and use this knowledge - paving the way for e-governance.

Introduction of e-governance ensures that citizens can participate in , and influence decision-making processes which affect them closely. Citizens no longer remain passive recipients of governance services provided to them, but can proactively decide the types and standards of governance services they want and the governance structures which can best deliver to them.

ICT can influence governance processes possibly in the following three ways:

- **Technical Role:** Automation ofrepetitive governance tasks and thereby improving efficiency of governance processes. For inst ance, automated filing of tax forms, e-voting, periodic information reporting etc.
- **Supportive Role:** Use of ICT to complement existing efforts and processes to improve governance. For instance, use of Internet to catalyse existing efforts towards transparency in government information and functioning, or embedding use of e-mails in connecting decision-makers with their constituencies.
- **Innovative Role:** Use ofICT to initiate new governance services or new mechanisms for improved service delivery which would be impossible through non-ICT modes. For instance, online checking of status of an application (from remote and beyond office hours); providing instant access to the same information to all individuals through e-mails and website; ability to instantly access, compare or triangulate information from outside of the constituency or government sources etc.

LEGAL AND POLICY FRAMEWORK

- **Information Technology Act, 2000**

The Information Technology Act, 2000 was enacted to" ... provide legal recognition for transactions carried out by means of electronic data interchange and other means of electronic communication, commonly referred to as

"electronic commerce", which involve the use ofalternatives to paper-based methods of communication and storage of information, to facilitate electronic filing of documents with the government agencies and further to amend the Indian Penal Code, the Indian Evidence Act, 1872, the bankers' books Evidence Act, 1891 and the Reserve Bank of India Act, 1934 and for matters connected therewith or incidental thereto."

Thus, the focus of this Act is on electronic commerce and electronic records. The Act contains provisions on digital signatures and authentication of electronic records, retention of electronic records, attributi on, acknowledgement and dispatch of electronic records, security of electronic records, regulation of certifying authorities , cyber regulation Appellate Tribunal etc. To facilitate the implementation of e-governance projects at various levels across the country, a more holistic legal framework isrequired.

- **Report of the Working Group on Convergence and E-governance, 2002-07**

This process involves major changes in the structures of the computer indust ry, information and content indust ry, and the communication industry and has three major aspects:

Convergence of Carriage: Maximum convergence is expected in the area of access network (tele-communication including data communication) or local delivery services (broadcasting) as technology now permits the use of the network for carrying broadcasting signals.

Convergence of Content: Content convergence focuses on fully developing web content into an integrated online experience that enhances the value of the printed and online products to both readers and advertisers. Creation of content that is useful, interesting and empowers the user calIs for the resolution of contradictory interests.

Convergence of Terminal: Technology and industry are moving towards achieving the ultimate aim of global coverage to provide anywhere and at any time communication of voice data and images.

The success of the convergence would lie in ensuring a seamless transition to the new services and information delivery systems. Both in government funded projects and the private sector, returns in terms of better and cheaper de live ries, scalability and coverage would determine as to which medium would lead the convergence process. The single biggest area of"convergence" could be the integration of the Internet with the broadcast market.

- **Common Minimum Programme**

E-governance is a fairly complex process of creating and harnessing the right environment that consists of people who are committed to the cause and who have the right knowledge , skill sets and attitude. Taking note of the potential of e-governance in improving the quality of life of the masses and the learning associated with earlier initiatives, the Government of India has come up with a national programme-National e-Governance Plan (NeGP), which has been approved. E-governance is also a part of the government 's agenda of governance as mentioned in its National Common Minimum Programme. In this context, the national programme has identified several e-governance projects called Mission Mode Projects (MMP) at the Centre and State level, which are to be implemented by the respective line ministries.

- **National E-Governance Plan**

The National E-Governance Action Plan comprises of core components and 27 Mission Mode Projects to be executed across the country. Certain Mission Mode Projects (MMP) are to be implemented by the line ministries at

the national level, some by the state governments and certain integrated projects. Major activities proposed in NeGP include:

(a) Core Policies
(b) Core Projects - Mission Mode Projects (MMP)
(c) Core Infrastructure
(d) Support Infrastructure
(e) Human Resource Development/Training
(j) Technical Assistance
(g) Awareness and Assessment
(h) Organizational Structures
***(i)* R&D**

These are the key areas identified for capacity building initiatives by the government. Considering the nature and scale of e-governance initiatives planned under NeGP, the central and State Governments typically do not presently have enough committed manpower and supporting infrastructure to manage thee-governance projects.

Keeping in view the enormous task of driving NeGP in line with the overall spirit of service orientation most of the ministries and states are inadequately equipped in terms of personnel and the skill-sets needed to handle the host of issues involved.

NeGP has an integral component of"capacity building", in which the State Governments are required to build capacity (in terms of resources of people, process and tools) for conceptualizing, developing and managing the e-government projects. Through this capacity building the State Governments would be better placed to envision and steer the NeGP programme in a"projectizedmode". Therefore, for implementing an e-government plan in a sustainable manner, it will be essential to fill thee-readiness gap between the capacities needed form pervasive e-governance and the capacities actually present.

- **Expert Committee**

An expert committee comes in to picture to include the technological developments post IT Act, 2000. The expert committee submitted its report on August, 2005. The committee during its work pointed number of issues like: Using IT tools for socio- economic development and generating employment through out the country and help in big way in creating India as a major player in IT sector.

- **Right to Information Act, 2005**

The Freedom oflnformation Act to be enacted which shall ensure right of citizen to have access to information.

The widening use of Information and Communication Technology (ICT) is leading to distributed knowledge and power structures. It has the potentiality of changing the political scenes and reshaping the way citizens interact with the government. E-govemance is part of the government's strategy to use Information Technology to help enhance people's lives.

Re-engineering of the existing government processes and procedures is essential to bring about transparency in working, reducing bureaucratic controls, increasing efficiency and productivity, reducing cost of service delivery etc.

Integration of projects across various departments to provide a single point of contact for citizens for delivery of services electronically is essential.

There should be complete transparency in governance citizen's charter of each and every govermnent department should be available to citizens over the Net.

Q. 3. Examine the role of ICT in Administration.

Ans. Role of ICT in Administration: The administration and ICT support function helps a business to run smoothly from day-to-day. The role of this department has changed over recent years as more of its tasks are now carried out by computers , hence its title of administration and ICT support. ICT has played an important role in public administration reforms in many countries. It changes the way the govermnent performs its functions and helps reduce operational costs. At the same time, ICT can increase the efficiency of government services. ICT is one of the key instruments that support good governance by increasing govermnent transparency and accountability. This will eventually help reduce corruption opportunities. ICT empowers the general public to actively participate in policy formulation and help ensure transparent use of public funds. We will discuss the role ofICT in detail.

Internal Administration: It is typically responsible for policing, national security, and immigration matters. The ministry is often headed by a minister of the interior or minister of home affairs. In some countries, matters relating to the maintenance of law and order and the administration of justice are the responsibilities of a separate ministry.

In countries with a Federal Constitution, an interior minister will often be found at both the federal and state levels. Similarly, autonomous entities and dependent territories may also have interior ministers.

In certain jurisdictions, similarly named govermnent departments may have other responsibilities. In the United States, the Department of the Interior has radically different functions-primarily the management and conservation ofland owned by the federal government, and programmes and policies dealing with indigenous peoples of the U.S. The functions that fall under what most other countries call an "interior ministry" are under other government departments-mostly the Department ofHomeland Security, with some others falling under the Department of Justice.

ICT changes the traditional form of administration into the new electronic administration:

Traditional Administration	Electronic Administration
Old paper files	Computer files
Delayed work	Instant work
Manual work	Computer work
Batch processing	Online processing
Fear of unknown	IT savvy

Technology for Effective Internal Administration

Internal functioning of administration will become more effective with the advent of the following devices:

Wireless Devices: A wireless device can refer to any kind of communications equipment that does not require a physical wire for relaying information to another device. Wireless headphones fitted with a receiver use either Radio Frequency (RF) or infrared technology to communicate with a transmitter that is connected to the sound source, say a television. In most cases, however, when someone refers to a wireless device, they are speaking of a networking device that can pass data to other wireless network gear without being physically connected.

Unified Messaging

Unified Messaging (sometimes referred to as the Unified Messaging System or UMS) is the handling of voice, fax, and regular text messages as objects in a single mailbox that a user can access either with a regular e-mail client or by telephone. The PC user can open and play back voice messages , assuming their PC has multimedia capabilities. Fax images can be saved or printed.

A user can access the same mailbox by te le phone . In this case, ordinary e-mail notes in text are converted into audio files and played back.

Unified messaging is particularly convenient for mobile business users because it allows them to reach colleagues and customers through a PC or tele phone, whichever happens to be available. Some services offer worldwide telephone access.

E-mail

E-mail (electronic mail) is the exchange of computer-stored messages by telecommunication. (Some publications spell it e-mail; we prefer the currently more established spelling of e-mail.) E-mail messages are usually encoded in ASCII text. However, you can also send non-text files, such as graphic images and sound files, as attachments sent in binary streams. E-mail was one of the first uses of the Internet and is still the most popular use. A large percentage of the total traffic over the Internet is e-mail. E-mail can also be exchanged between online service provider users and in networks other than the Internet, both public and private.

E-mail can be distributed to lists of people as well as to individu als. A shared distribution list can be managed by using an e-mail reflector. Some mailing lists allow you to subscribe by sending a request to the mailing list administrator. A mailing list that is administered automatically is called a list server.

File Tracking Module

The main aim of the project File Tracking System is to provide flexibility to government departments to maintain huge amount of pending files. This system will help all government departments to keep track of every file. This web application is designed for Automation ofDepartment oflndustries.

In this system, we need to process files in hierarchy and proper action should be taken and necessary permissions are given for the requested files.

Steps Taken

- In state like West Bengal the integrated web portal becomes the main point of contact between organisations of state and public administration, citizens and firms. It ensures uniform and effective communication between them and success of the perception of the provided services. Each component of state administration may create its own services independent of the other according to the same standards.
- Most of our state's infrastructure represents the basic element and the level ofinformation and communication technologies the error-free and reliable activity of which is an essential precondition for the provision of any services of a higher level. JCT infrastructure can be ensured either as a service which can react flexibly to a change in requirement or as a customised project which includes not only the transmission, cable and communication systems of the LAN and WAN networks, infrastructure for voice and data communication, server infrastructure essential for the processing and saving of data and operation of applications of higher levels of customer premises equipment,

primarily computers and elements of computer networks. It is also closely linked to the restructuring of processes, digitization of documents and knowledge management or electronic forms and content administration.

- For the provision of the broadest spectrum of services to the public for all citizens and organis atio ns, it is necessary to utilise the available possibilities of access and communication. Multilayer access to services means the possibility of using all the services via any communication technology. In addition to the Internet or e-mail such services as SMS, telephone services, fax or public access points are offered.
- Ensuring effective communication between citizens and various elements of state and public administration and mutual communication between these elements is enabled by modern technology of network private branch exchanges allowing the integration of telephone and data services into a single homogenous whole. A private branch exchange as a service frees an organisation from the need to acquire and maintain expensive and complicated private branch exchanges whilst ensuring the full functionality of telephone and voice communication. For the management ofrelations with citizens it is possible to utilise modem CRM systems and the utilization of outsourcing can also play a not insignificant role.
- Security is one of the main concerns for all the states. The security of online services and preservation of complete confidentiality of all information which citizens exchange with bodies of state and public administration via the devices of information and comm-unication technology constitute only one part of the overall security of use of information and communication technologies . The second and no less important part is the ensuring of secured access of all employees and other authorised persons for the use of applications and data and to resources for the handover and sharing of information, for example e-mail or the Internet. Access security covers a broad range of activities and the technologies, equipment and tools corresponding thereto. The actual access security must be dealt with comprehensively and must constitute a unified, mutually complementing set of measures. Only in this way is it possible to attain true security of use of information and communication technologies for the performance of day-to-day working activities. This primarily involves protection against viruses , spam and generally harmful software protection against hacking and attacks, filtering of dangerous and undesirable content, protection of network against abuse or eavesdropping and also tools for defining the workers to use other resources, and primarily undesirable Internet sources. The use of the services of outsourcing and hosting, backing up of working and sensitive data or utilisation of managed security services also contributes to ensuring security.

Planning and Decision-Making

ICT enables planning and decision-making with the help of following applications:

Information Systems

Information Systems (IS) is an academic/professional discipline bridging the business field and the well-defined computer science field that is evolving towards a new scientific area of study. An information systems discipline therefore is supported by the theoretical foundations of information and computations such that learned scholars have unique opportunities to explore the academics of various business models as well as related algorithmic processes within a computer science discipline. Typically, information systems or the more common legacy information systems include people , procedures, data, software, and hardware (by degree) that are used to gather and analyze digital information.

Geographic Information Systems (GIS)

This system is related with the Special Decision Support Systems that can store, check and capture digital data and maps . Each record or digital data has an identified location. With the help of GIS use of spatial information with connected socio-economic information is possible which provide an ideal base for the planning and developing.

GIS is responsible for the local development within the country. GIS has started UNDP project which helps in local level planning. It also started GRAM + GIS package for local level planning.

Kutch District of Gujarat also implemented GIS based Decision Support System which helps in processing of survey data. State of Andhra Pradesh adopted the GIS Development Monitoring System, which combines satellite imagery with digitised district , mandal and village maps. In the state of West Bengal this system is adopted at both muncipality level and block and Panchayat level.

Management Information Systems (MIS)

There are number of examples in which MIS is working as the backbone for the State Governments in decision-making and planning. In Maharashtra MIS has undertaken by the Department oflrrigation. This helps in a big way in smooth exchanging information amongst different levels. The State ofTripura has taken up MIS for the traffic management within the state. Apart from traffic management it helps in building infrastrusture for rural urban areas. In Maharashtra this system is working as an Executive Information System for the CM and other cabinet ministers.

The sales tax department of Maharashtra adopted this system to facilitate electronic business in the State. This system also helps in data communication as we see in the case of Andhra Pradesh.

Computerization

Development of computers has had vital influence on the effective organization and operation of network infrastructures. As end devices, computers act as intelligent terminals. The use of computers in the network nodes has reduced the cost of technology, network management, operation and maintenance.

The processing power of computers and the new applications have had a radical impact on the ICT sector. On the one hand, the expensive and complex functions in the network, such as switching and Intelligent Network Services, are done to a large extent by computers. On the other hand, computers have diffused in practically every function necessary for operation of an ICT network, such as billing and Human Resource Management.

Connectivity

ICT is changing people lives everywhere. This goes from the home to the office. No matter who the person is. They will have come into contact with ICT and it will have helped them in some way. ICT has a big impact on people in their everyday lives and is affecting people in different ways. Technology is all around us but most people do not realize. It is taken for granted because of how common it is. The way it is changing people's lives is through things such as the Internet and mobile phones. Most people now have access to the Internet whether it is at home or in the local library. It is allowing people to find whatever information they want whenever they need it. We can also talk to people all over the world for free through instant messenger programmes and e-mail. Mobile phones are allowing us to communicate at anytime anywhere we are. This means that people no longer have to either look for a phone box or have to wait until they get home to talk to someone. We can now phone people wherever we are even if on the other side of the country. We can just pick up a mobile phone and talk with the person who is living overseas.

Video Teleconferencing

Video-conferencing technologies are some of the most important technologies currently in existence today. Video-conferencing allows businesses to keep in touch with employees and clients from across the country and around the world in real time with both audio and video. They are connecting classrooms for distance education in ways never before envisioned. They are allowing online matchmaking websites to allow real and powerful contact between potential matches. For this important technology to continue , videoconferencing research is vital.

What is the need for the continuation of video-conferencing research? After all video-conferencing technologies are already in use across the country and around the world. Why do we need to continue videoconferencing research? Is there any more that this technology can offer?

The answer is yes. The fact is that videoconferencing has already been around for decades . The original video-conference was held all the way back in the 1930's. As you can imagine that video-conference took a very different form than what we think of when we discuss video conferencing today. That is thanks in large part to the vast amount of work that has gone into video-conferencing research .

Today, perhaps the most exciting area of video-conferencing research is going into the development of videoconferencing technologies that are able to work over IP networks. These are the types of networks that are most commonly used for access to the Internet and the World Wide Web. These video-conferencing technologies are the most common form of video-conferencing found among online matchmaking websites, as it allows for web-based video-conferencing rather than requiring complicated connections between video conferences.

While web-based video-conferencing has taken off in ways that even ten years ago seemed like a dream, the fact is that more work needs to be done. There is still plenty of video-conferencing research that can be done. After all quality of online video streams are often far below what one can find using other media and connections still are not always the strongest. Thus, video-conferencing research seeks to make web-based video-conferencing more powerful, faster and easier to use.

Service Delivery

The Service Delivery discipline concentrates on the proactive services the ICT must deliver to provide adequate support to business users . It focuses on the business as the customer of the ICT services.

The Service Level Manager relies on the other areas of the Service Delivery process to provide the necessary support which ensures the agreed services are provided in a cost-effective, secure and efficient manner.

Capacity Management

Capacity management supports the optimum and cost-effective provision ofIT services by helping organizations match their IT resources to business demands . The high-level activities include:

- Application Sizing
- Workload Management
- Demand Management
- Modelling
- Capacity Planning
- Resource Management
- Performance Management.

IT Service Continuity Management

IT Service Continuity Management covers the processes by which plans are put in place and managed to ensure that IT services can recover and continue even after a serious incident occurs. It is not just about reactive measures, but also about proactive measures-reducing the risk of a disaster in the first instance.

Continuity management is regarded by the application owners as the recovery of the IT infrastructure used to deliver IT services, but as of2009 many businesses practice the much further-reaching process ofBusiness Continuity Planning (BCP), to ensure that the whole end-to-end business process can continue should a serious incident occur.

Continuity management involves the following basic steps:

- Prioritizing the activities to be recovered by conducting a Business Impact Analysis (BIA).
- Performing a Risk Assessment for each of the IT Services to identify the assets, threats, vulnerabilities and counter-measures for each service.
- Evaluating the options for recovery.
- Producing the Contingency Plan.
- Testing, reviewing, and revising the plan on a regular basis.

Availability Management

Availability management targets allowing organizations to sustain the IT service availability to support the business at a justifiable cost. The high-level activities are RealizeAvailability Requirements, Compile Availability Plan, Monitor Availability, and Monitor Maintenance Obligations.

Availability management addresses the ability of an IT component to perform at an agreed level over a period of time.

- **Reliability:** Ability of an IT component to perform at an agreed level at specified conditions.
- **Maintainability:** The ability of an IT component to remain in, or be restored to an operational state.
- **Serviceability:** The ability for an external supplier to maintain the availability of component or function under a third-party contract.
- **Resilience:** A measure of freedom from operational failure and a method of keeping services reliab le . One popular method of resilience is redundancy.
- **Security:** A service may have associated data. Security refers to the confidentiality, integrity, and availability of that data. Availability gives a clear overview of the end-to-end availability of the system.

Financial Management for IT Services

IT Financial Management comprises the discipline of ensuring that the IT infrastructure is obtained at the most effective price (which does not necessarily mean cheapest) and calculating the cost of providing IT services so that an organization can understand the costs of its IT services . These costs may then be recovered from the customer of the service. This is the second component of service delivery process.

SECTION-II

Q. 7. Write a note on the concept and significance of e-le arn ing . Also highlight virtual learning environment.

Ans. E-learning: Concept and Significance: E-learning comprises all forms of electronically supported learning and teaching. The information and communication systems, whether networked or not, serve as specific media to

implement the learning process. The term will still most likely be utilized to reference out-of-classroom and in-classroom educational experiences via technology, even as advances continue in regard to devices and curriculum.

E-learning is essentially the computer and network-enabled transfer of skills and knowledge. E-learning applications and processes include Web-based learning, computer-based learning, virtual classroom opportunities and digital collaboration. Content is delivered via the Internet, Intranet /Extranet, audio or video tape , satellite TV, and CD-ROM. It can be self-paced or instructor-led and includes media in the form of text, image, animation , streaming video and audio.

E-Learning: Significance

E-learning, with all its characteristics defining its advantages and disadvantages is a major breakthrough in academic education and professional training. Various universities worldwide have incorporated e-learning solution in their curriculum and commercial companies from different fields of business have also integrated this method in their staff training programmes to further enhance and develop the skills and knowledge of their workforce which can significantly contribute in the company growth in terms of production and profit.

One of the advantages of e-learning is its flexibility which allows any people willing to study, but with always a limited time can access education and training by using e-learning tools and modules related to the field he or she wants to study. For students, this is major advantage in trimming down tuition fee expenses and other miscellaneous fees related to their academic pursuit.

Major factors that contributed toe-learnings cost efficiency are the overhead costs typical on traditional learning institutions and the fees they have to pay their teachers/professors and trainers. Expenses for books and other learning materials are extremely cut down since e-learning only requires a computer with an Internet connection and the minimal fee you have to pay on your e-learning provider. Students can also tailor e-leaming solution based on their work schedules and the particular field of expertise they want to target. No need to take up unnecessary classes which have nothing to do on your current course. This is typical in any traditional learning institutions to pump up payment expenses by introducing various supplementary subjects, which if evaluated, has no direct relation or significance to the course.

E-LEARNING SYSTEMS: VIRTUAL LEARNING ENVIRONMENT

A VLE will normally work over the Internet and provide a collection of tools such as those for assessment (particularly of types that can be marked autom atically, such as multiple choice), communicat io n, uploading of content, return of students ' work, peer assessmen,t administration of student groups, collecting and organizing student grades, questionnaires, tracking tools, etc . New features in these systems include wikis, biogs, RSS and 3D virtual learning spaces. VLE's are often used in schools and other educational establishments in order to make the learning experience more interactive.

While originally created for distance educatio n, VLEs are now most often used to supplement traditional face-to-face classroom activities , commonly known as Blended Learning. These systems usually run on servers, to serve the course to students Multimedia and/or web pages.

In some programmes, such as ellum inate , a virtual learning environment can be similar to a face-to-face classroom environment in that it allows direct communication with the teacher. Students can use emotions to "raise their hand," show that they are confused, show that they understand what the teacher is saying, and even give applause for something that the teacher says. Students are also able to talk to the teacher when called on. In many of these virtual learning environments the students are able to write on the "virtual classroom chalkboard." This allows them to show their work for the rest of the class to see. Students can also be split up into groups in order to work with each other and discuss topics that the teacher introduces. Many virtual learning environments give teachers the ability to share multimedia files such as video and audio files as well as the ability to transfer important documents directly to students.

Today's use of ' virtual learning environment ' is not restricted to well-structured information spaces, but one expect that this criterion will become more salient, as content management becomes a main issue for all teachers involved in virtual learning environments. Researchers have to develop a better understanding of the functional relationship between how information is structured and represented and how it can be used in learning activities and interactions.

A VLE should make it possible for a course designer to present to students, through a single, consistent, and intuitive interface, all the components required for a course of education or training. Although logically it is not a requirement , in practice VLEs always make extensive use of computers and the Internet. A VLE should implement all the following elements:

- The syllabus for the course.
- Administrative information including the location of sessions, details of pre-requisites and co-requisites, credit information, and how to get help .
- A notice board for up-to-date course information.
- Student registration and tracking facilities, if necessary with payment options.
- Basic teaching materials. These may be the complete content of the course, if the VLE is being used in a distance learning context, or copies of visual aids used in lectures or other classes where it is being used to support a campus-based course.
- Additional resources, including reading materials, and links to outside resources in libraries and on the Internet.
- Self-assessment quizzes which can be scored automatically.
- Formal assessment procedures.
- Electronic communication support including e-mail, threaded discussions and a chat room, with or without a moderator.
- Differential access rights for instructors and students.
- Production of documentation and statistics on the course in the format required for institutional administration and quality control.
- All these facilities should be capable of being hyperlinked together.
- Easy authoring tools for creating the necessary documents including the insertion of hyperlinks-though it is acceptable (arguably, preferable) for the VLE to be designed allowing standard word processors or other office software to be used for authoring.

Q. 9. Write a note on ICT applications in Indian Railways.

Ans. Information and Communication Technology (ICT) is key towards bringing in a substantial change in the Indian Railways. The transportation industry today has to be on the move, constantly, in more ways than one. It has to deal with the increasing demands of customers and supplie rs, while simultaneously trying to optimise the entire business operation at minimum cost. To keep pace with changing business paradigms, transporters need more than ever to use ICT, not merely as an enabler of operations, but as a strategic driver and critical businesstool.

Indian Railways is the largest rail network in Asia and the world's second largest under one management. Indian Railways runs around 11,000 trains everyday, of which more than 7,000 are passenger trains. The first train on Indian sub-continent ran over a stretch of 21 miles from Bombay to Thane.

Indian Railways, abbreviated as IR, is the state-owned railway company of India, which owns and operates most of the count ry's rail transport. It is overseen by the Ministry of Railways of the Government ofl ndia.

Indian Railways has more than 64,015 kilometres of track and approx. 6,909 stations. It has the world's fourth largest railway network after that of the United States, Russia and China. The railways traverse the length and breadth of the country and carry over 20 million passengers and 2 million tons of freight daily. It is one of the world's largest commercial or utility employers, with more than 1.6 million employees. As to rolling stock, IR owns over 200,000 (freight) wagons, 50,000 coaches and 8,000 locomotives.

Railways were first introduced to India in 1853. By 1947, the year oflndia's independence , there were forty-two rail systems. In 1951 the systems were nationalized as one unit, becoming one of the largest networks in the world. **IR** operates both long distance and sub-urban rail systems on a multi-gauge network of broad, meter and narrow gauges. It also owns locomotive and coach production facilities.

ICT IN INDIAN RAILWAYS

We can observe if we analyze the semi-automated Indian Railways system, that it is still lacking the independence from manual work by human being.

The Indian Railway is the largest government organization having more than half million employees working into it with an average only 6 pure working hours. Now these details indicate waste of resources by not utilizing all of them in a best way they could have been used.

Indian Railways still use FoxPro and some other ancestors' time softwares which can be replaced with current bunch of efficient softwares with some strategic planning towards it.

Indian Railways is having great management for even a single component of their system with maintaining this much amount of employees. Now if they are having certain great level of management then making whole system fully automated is no more challenging task for India. Though India is a one of the leading nation contributing in Information Technolo gy, a system like Railways is very much easy toimplement.

With proper technical support in India the traditional old system can easily be converted to current updated one.

Though thinking seems to be much easier than implementation because ifwe will implement a new system then we need to train all those employees who has been working on old system. This training may be seen as overhead or long time benefit to the system by the Government oflndia is another issue.

Q. 10. Detail out the various services offered through e-seva project.

Ans. Services Offered Through E-seva Project: A large number of services is offered to the people through this project. Let us discuss them in brief:

Online Filing of Complaints and Grievances

Governments enter into the daily lives of the citizens in many ways. There is a fair degree of discontent amongst the citizens about the delivery of these services. The craving for better services couldn't have been stronger. Everybody wants an outlet to report their individual or communal grievance and would be very happy if the same is attended to with alacrity and promptness. The project allows citizens to file their grievance in these centres. Every grievance is acknowledged and transferred online for bringing in field level action .

Grievances have been territorially and functionally categorised allowing ease of regis tration. Every grievance is given a unique number for easy retrieval to monitor and to know the status.

As the grievance is uniquely numbered and recorded in real time in the central database , there is no way it can miss the attention of the concerned. Registered grievances can be easily monitored by concerned departments by logging with their user identity and passwords specifically assigned to them.

Every grievance becomes monitorable at the highest-level leading to prompt and effective redressal. The real time summary statistics and performance summary statement of the individual departments can be seen and verified. The citizens can verify and track the status of its disposal online.

The project works on the principle that the citizen need not go himself to the authorities if someone can carry his grievance and in this case if a telephone wire can do that, where is the need for them to act otherwise? The citizens now need not wait if there is a drinking water problem or a non-functioning Fair Price Shop or a government functionary not doing his duty. All this is only one click away now.

Online Application Registration

There are host of areas where the citizens approach various tiers and areas of governments for getting benefit out of various government programmes. These areas range from getting a loan under self-employment schemes to applying for an old age pension or asking for subsidized agricultural inputs. Instead of moving from offices to offices and getting harsh responses , the citizens just need to come to the kiosk and apply onli ne. They get their acknowledgement number and the rest is taken care of. The module provides for online forwarding, transmiss io n, handling and disposal of such requests and would, therefore minimize the disposal time and the concomitant citizen effort to get their cases redressed.

The interconnectivity and linkage with the citizen database also helps in weeding out bogus and repeat cases. The old age pensions being given in this project were computerized and put on the project website alongwith the photographs and the citizen identification number helping the administration weed out over 7000 bogus names saving over Rs. 7 million yearly for the state.

Issuance of Certificates

There are many kinds of certificates that the citizens need from the governments, the important among them is the integrated caste, nativity and income certificate. The citizen now need not go the Manda! Revenue Office and can apply directly at the Kendram, from where the request is transmitted onli ne; the certificates are prepared and made available to the applicant at the kiosk itself without any inconvenience and without any drudgery of shifting through offices.

The project also provides for the issuance of deaths and births certificates in all those cases where the time for getting from the respective Gram Panchayats has expired.

The philosophy behind this intervention is that citizen always loathes approaching a government department for the fear of getting discourteous treatment and being subjugated to corrupt practices. The project therefore, improves upon this interface and expects them to come to a centre run by their own peers, a place that is much more accountable, open, transparent and subject to public scrutiny.

Issuance of Land Records

The plan document of the Seventh Five Year Plan rightly opined, "Land records form the base for all land reforms and therefore regular periodic updating of land records is essential in al1 states."

The information relating to land plays a very important role. These may include primary information about land presented in terms of its geological information like the shape, size, land forms, soils; economic information related to land use, irrigation and crops; and the information pertaining to the legal rights, registration and taxation.

The manual system ofland records maintenance was highly opaque wherein the land records were maintained by the village accountants and therefore, there was a situation of virtual monopoly of village accountants over these records. Records were not open to public scrutiny and were updated many a times only on various considerations. Many a times farmers faced harassment and extortion for not only provision of land records to them by the village officials, but also for processing requests for change in land title.

On many occasions such delay was unintentional. Even if a village accountant was willing to give such records in time, he was not available when farmers wanted him most as he was manning more than 4-5 villages. Therefore, there was no certainty about timely availability of such records when a farmer required them.

Land records contain various useful data like soil type, irrigation deta ils , trees, crops grown, crop yield etc. All such data is very valuable for various administrative purposes. As data was previously manually maintained , it was not possible to collate and analyze such data resulting into mine of such useful data not being used in any meaningful way. However, keeping this in view the land records in the state have been computerized and all the mandal revenue offices now maintain these records.

But despite the availability of computerized database , no public outreach to this database was put into place. Further, validation of data was also not properly done leading to errors in database. The printed records were distributed to the farmers without proper validation and the updation or any use of the database was mostly forgotten.

Online Auctions and Bidding

One fundamental reason for the rural-urban divide is the lack of well developed markets in the rural areas hindering efficient sale and purchase of goods. As a result most of the decisions made by the farmers and the rural poor are based on insufficient information and are therefore, sub-optimal and in majority of the cases go against them. The middlemen present in all such areas therefore are having an average day and the citizens suffer. The project has been trying to fill in these information gaps and allows the citizens the facility to post their products for online auctions at any of the kend ras. They have the convenience of posting their product detail along with the

specifications and the expected price. As this information is shared by other mandal kiosks, online bidding by citizens there is possible giving a beneficial situation to both of them. As the portal is vertically integrated through internet, online queries from other parts can improve the available choices.

The kind of products that can be put for auction may include agricultural commodities, farm implements, land or buildings etc., literally anything that a rural household would like to buy or sell in the rural areas. This also opens the possibility for the DWACRA and self-help groups to market their products directly without any middlemen to citizens horizontally within the district and vertically outside. In sho rt, as days go by and as the citizens get used to this facility, it may trigger a chain reaction for opening up the window of opportunities to rural populace to have more informed choices in their trades.

Online *Mandi* (Market) Rates

Ideally an average household makes a decision before buying or selling the goods and products based on the information they collect locally. The advent of communication facilities like telephone, television etc., have widened their information base. Nonetheless it would have been much better if they had an easy access to the rates prevailing as on that moment in various PACS and other *mandis* within the district and elsewhere. The project envisages doing right that. Every kendra uploads the market rates prevailing in their area which are then available to everybody else. The rates in other markets elsewhere in the state are also available for the citizens to watch the trends and make the right decision after weighing all options.

Payment of Dues

The e-Seva kendras also provide the facility of payment of utility bills, electricity and telephone bills. Moreover, one can able to make the payment of his credit or debit cards. All this facilities is provided free of cost.

Easy Access to Information

The right to information has now been recognized by the Parliament ; Kendras through the District Portal allows access to all kinds of valuable information to the citizens not just with respect to the government programmes but also allows access to the databases like the Old Age Pensio ns, Ration Cards, Multi-Purpose Household Survey Records, Beneficiaries under various self-employment schemes, children database , civil works etc. This induces transparency in the implementation of these programs and facilitates weeding out ineligible cases so that corresponding benefits can be passed down to the needy .

The project recognizes that no matter what the rhetoric is, real right to information is possible only if the information is put into the public domain and new technologies provide the most cost effective solutions for doing that.

Matrimonial Services

The networking of citizens with each other for mutually beneficial transactions should be the ultimate objective for a vibrant civil society. Other than the government-citizen services, host of Citizen-Citizen (C2C) services are being rendered through this project.

As part of that , a marriage bureau has been operationalized so that prospective brides/grooms can place their biodata eliciting suitable offers and gradually as things move along, a huge record of eligible wed-seekers is created

making search for life partners easier and cost effective. The package designed also keeps matching points so that the search is quick, accurate and fast.

Tele-medicine

The management and procurement of consumables required by various wings of administration including the Primary Health Centres is being provided through the kend ras. This also would have a bearing on reducing the procurement costs by effecting economies of scale. The cost of procurement would also be available for public scrutiny so as to make them more transparent and accountable. A new tele-medicine is started for the betterment of poor patients.

Tele-agriculture

It will enable online interactions between the local farmers and agriculture scientists working at scientific institutions which will cover a wide range of subjects starting from alternate cropping systems, optimization of agricultural in puts, soil and water conversation etc.

Forms Download

There are number of forms available of different government departments. The e-Seva kendras act as a one stop shop for downloading all kinds of forms.

Citizen Forum

The first citizens forums emerged in the mid-1970s from the area of planning and technology assessment in the form of planning cells. Since then a range of innovative processes have been deve lo ped, including consensus conferences, citizens juries and a number of hybrid methods. Whilst there are some differences between these processes, they seek to bring a small panel of randomly selected lay citizens together to deliberate on a policy issue. After hearing from, and questioning a number of experts such as academics and interest groups, the citizen panel develops a set of written recommendations. This document then feeds into the policy process either directly (e.g., tabled in Parliament) or indirectly through wide public dissemination.

Whilst elected representatives and bureaucrats often view citizens forums with some degree of scepticism , resistance appears to be rising from another set of political players: interest groups. This poses a potential problem to the future of citizens forums because interest groups play two key roles in ensuring the success and legitimacy of these processes. *Firstly ,* interest groups provide information and perspectives to lay citi zens, and second ly, their involvement serves to legitimise the process and its outcomes. In most cases, interest groups see value in participating, because it ensures that their perspectives form part of the de li berations . However, in certain policy settings some interest groups remain threatened by invitations to participate in a citizens forum and choose to respond by undermining the process itself.

E-education

Online education is a new generation tool. It is basically a computer based programme. In this education the courses are delivered partly or completely via the Inte rnet, an intranet or an extranet. Here, content to concept every thing delivered through online. This education gives you enough time to set your own study time from any where. The

ability to communicate and interact with students all over the country or even the world provides unique advantage to the student. Documents, transcripts, live discussions and training materials are all archived and recorded so that they can be retrieved via mail, e-mail or the school's Website for reading, downloading, and printing. Instructors are also available at convenient times and respond quickly through email. You can get an online degree at various levels-associate degrees online, bachelor's degrees online, master's degrees online, even a Ph.D degree online.

Common Accounts-Keeper for Self-help Groups

The project aims at equipping Self-Help Groups (SHGs) of poor women with a netbook (mini laptop), which would enable them in maintaining records of the financial transactions in a more simple and efficient manner. In general, book-keeping is viewed as drudgery. It amply reflects in SHG bookkeeping throughout the state even though SHGs are provided with books. Under e-book-keeping project, which has been piloted in the Bibinagar Manda! of the Nalgonda district of Andhra Pradesh, 35 Netbook PCs have been provided to 35 village organizations. These netbooks have been loaded with software application for maintenance of all sort of financial transactions and individual records. The software has been developed by Tata Consultancy Services (TCS). Earlie r, the book-keeper, a person who maintained the records of all the business transacted in a SHG meeting, had to maintain seven books for the purpose and had to spend one and half hour to register all of it. But with the help of these netbook PCs, all of the transactions are recorded in just a time period of 10 to 15 minutes . Immediately , after the transactions, the data is uploaded into the central server maintained for this purpose.

Thee-book-keepers who are self-help group members themselves with minimal education can handle the device as well as the software with ease and comfort. All financial transactions of all self-help groups in the mandal are being recorded with 100 per cent accuracy, which has not been possible with traditional bookkeeping system.

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